

What is claimed is:

1. An inkjet recording apparatus, comprising:
  - a recording head to conduct recording by jetting an ink onto a recording medium having an ink receiving layer containing thermoplastic resin particles on a surface thereof and a pigment ink solvent absorbing layer adjoining to an inner side of the ink receiving layer;
  - a heating and pressing device to heat and press the recording medium so as to make the ink receiving layer of the recording medium to be transparent;
  - a conveyor to convey the recording medium to the recording head and further to the heating and pressing device; and
  - a temperature controller to control a heating temperature by the heating and pressing device within a range of  $T_0 \pm \Delta T$  °C, where  $T_0$  is 50 to 150 °C and  $\Delta T$  is not larger than 10 °C.
2. The inkjet recording apparatus of claim 1, wherein  $T_0$  is 80 to 130 °C.
3. The inkjet recording apparatus of claim 1, wherein the inkjet recording apparatus is adapted to record an image on

one of plural kinds of recording medium and the heating and pressing device changes a heating and pressing time period in accordance with the kind of the recording medium.

4. The inkjet recording apparatus of claim 1, wherein the inkjet recording apparatus is adapted to record an image on one of plural kinds of recording medium and the temperature controller changes the heating temperature in accordance with the kind of the recording medium.

5. The inkjet recording apparatus of claim 1, wherein the heating and pressing device comprises a belt member stretched around at least two rollers and a roller coming in contact with the belt member so as to form a nip section therebetween where the recording medium passes through.

6. The inkjet recording apparatus of claim 1, wherein the heating and pressing device comprises two belt members each stretched around at least two rollers and the two belt members come in contact with each other so as to form a nip section therebetween where the recording medium passes through.

7. The inkjet recording apparatus of claim 1, wherein the heating and pressing device presses the recording medium with a pressing force of  $9.8 \times 10^4$  to  $4.9 \times 10^6$  Pa.

8. The inkjet recording apparatus of claim 1, wherein the heating and pressing device has a recording medium contacting surface to contact the recording medium and comprises a cleaning member to clean the recording medium contacting surface.

9. The inkjet recording apparatus of claim 1, wherein the heating and pressing device has a recording medium contacting surface to contact the recording medium and comprises a transfer preventing liquid providing member to provide the recording medium contacting surface with a transfer preventing liquid to prevent a part of the recording medium or an ink from transferring to the recording medium contacting surface.

10. The inkjet recording apparatus of claim 9, wherein the transfer preventing liquid contains a silicone oil.

11. The inkjet recording apparatus of claim 1, wherein the heating and pressing device has a recording medium contacting

GENTLE ROLLER

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surface to contact the recording medium and comprises a transfer preventing liquid providing member to provide the recording medium contacting surface with a transfer preventing liquid to prevent a part of the recording medium or an ink from transferring to the recording medium contacting surface before heating and pressing the recording medium after the recording head has conducted recording on the recording medium.

12. The inkjet recording apparatus of claim 1, wherein the heating and pressing device has a recording medium contacting surface to contact the recording medium and comprises a glossing liquid providing member to provide a glossing liquid onto the recording medium contacting surface.

13. The inkjet recording apparatus of claim 12, wherein the inkjet recording apparatus is adapted to record an image on one of plural kinds of recording medium and the a glossing liquid providing member comprises a control section to control whether or not to provide the glossing liquid in accordance with the kind of the recording medium.

14. The inkjet recording apparatus of claim 12, wherein the inkjet recording apparatus is adapted to record an image on

one of plural kinds of recording medium and the a glossing liquid providing member comprises a selecting section to select whether or not to provide the glossing liquid.

15. The inkjet recording apparatus of claim 12, wherein the glossing liquid contains a silicone oil.

16. The inkjet recording apparatus of claim 1, further comprising a glossing liquid providing member to provide a glossing liquid onto the recording medium after the recording head has conducted recording on the recording medium.

17. The inkjet recording apparatus of claim 1, wherein when the inkjet recording apparatus does not conduct recording during a predetermined time period, the temperature controller stop controlling the heating temperature such that the heating and pressing device stop heat generation.

18. The inkjet recording apparatus of claim 17, wherein when the temperature controller resumes controlling the heating temperature after the temperature controller stopped the controlling, the heating and pressing device conduct heating and pressing by prolong relatively a heating and pressing time period after the heating temperature becomes

higher than a lowest heating temperature and until the heating temperature becomes within a predetermined temperature range.

19. The inkjet recording apparatus of claim 18, wherein when the heating and pressing device prolongs the heating and pressing time period for the recording medium, the recording head prolongs relatively a recording time period per a unit length of the recording medium in a conveying direction.

20. The inkjet recording apparatus of claim 19, wherein the recording head scans on the recording sheet forwardly backwardly in a direction perpendicular to the conveying direction, and wherein the recording head prolongs the recording time period by adjusting a stop time at which a scanning direction is changed.

21. The inkjet recording apparatus of claim 19, wherein the recording head is a line head having a length corresponding to a width of the recording medium, and wherein the recording head prolongs the recording time period by adjusting a ink jetting time interval.

22. The inkjet recording apparatus of claim 1, wherein when the inkjet recording apparatus does not conduct recording during a predetermined time period, the temperature controller controls such that the heating and pressing device keeps the heating temperature within a second temperature lower than the range.

23. The inkjet recording apparatus of claim 1, wherein when the inkjet recording apparatus does not conduct recording during a predetermined time period, the temperature controller controls such that the heating and pressing device keeps the heating temperature within a second temperature lower than the range, and further when the inkjet recording apparatus does not conduct recording during a predetermined another time period, the temperature controller stop controlling the heating temperature such that the heating and pressing device stop heat generation.

24. The inkjet recording apparatus of claim 1, wherein the heating and pressing device comprises a heating roller, a driven roller, a heating belt stretched around the heating roller and the driven roller, a pressing roller provided opposite to the heating roller, and a pressing member

provided downstream in a conveying direction from the pressing roller and to press the recording medium.

25. The inkjet recording apparatus of claim 24, wherein the heating belt is an endless belt whose surface roughness is 0.01  $\mu\text{m}$  to 0.5  $\mu\text{m}$ .

26. The inkjet recording apparatus of claim 24, wherein the pressing member is a plate.

27. The inkjet recording apparatus of claim 1, wherein the heating and pressing device comprises a heating roller, a driven roller, a heating belt stretched around the heating roller and the driven roller, a pressing roller provided opposite to the heating roller, and a pressing belt to press the heating belt.

28. The inkjet recording apparatus of claim 27, wherein the heating belt and the pressing belt come in contact with each other.

29. The inkjet recording apparatus of claim 27, wherein the heating belt has a surface roughness of 0.01  $\mu\text{m}$  to 0.5  $\mu\text{m}$ .

30. The inkjet recording apparatus of claim 27, wherein when the conveyor conveys the recording medium through the heating and pressing device, the heating and pressing device comes in contact with the recording medium for a contact time of 3 to 15 seconds.

31. A inkjet recording method of recording an image on a recording medium having an ink receiving layer containing thermoplastic resin particles on a surface thereof and a pigment ink solvent absorbing layer adjoining to an inner side of the ink receiving layer, comprising steps of:

recording an image with a pigment ink;

making the ink receiving layer to be transparent by heating and pressing the recording medium with a heating temperature of  $T_0 \pm \Delta T$  °C, where  $T_0$  is 50 to 150 °C and  $\Delta T$  is not larger than 10 °C.

32. The inkjet recording method of claim 31, wherein  $T_0$  is 80 to 130 °C.